

In the Claims

1.-9. (cancelled)

10. (currently amended) A digital recording disk feeder apparatus for recording and authenticating digital video signals, the digital recording apparatus comprising:

a controller including a coding generating and mixing means for generating an exclusive code for each fresh disk and code signals commensurating with said exclusive code for mixing said code signals with said digital video signals, said exclusive code being different than a pre-imprinted code of the fresh disk;

a fresh disk compartment for loading one or more said fresh disks;

a disk recorder means comprising a disk driver, a recording head, a reciprocal up-down arm, a sliding table, and a pull slider for collecting and transporting an imprinted fresh disk to said disk driver and to said recording head for recording said digital video signals mixed with said code signals onto said imprinted fresh disk;

an imprinting means comprising an imprinting head supported by said reciprocal up-down arm, for imprinting said exclusive code onto the surface of said fresh disk and for propelling said imprinted fresh disk away from said pull slider into said sliding table, the label being disposed on a label surface opposite to a digital video signal data recording surface of the fresh disk;

said pull slider pulling and transporting said fresh disk from said fresh disk compartment into said imprinting means;

a collection compartment for collecting the recorded disks; wherein

said sliding table transports back said recorded disk for ejection and said propelled imprinted disk ejects said recorded disk away from said sliding table into said collection compartment.

11. (currently amended) The digital recording disk feeder apparatus according to claim 10, and adapted for authenticating the readback of video digital signals read from said recorded disk, wherein:

said imprinting head further includes a code reader for reading said exclusive code imprinted onto said surface of said recorded disk;

said disk recorder further includes a readout head for reading recorded signals from said recorded disk; and

said controller further includes an extracting means for extracting said code signals from said readout head and said exclusive code from said code reader, and a comparing means for comparing said extracted code signals and said exclusive code for outputting an authentication signal when said code signals and said exclusive code commensurate.

12. (currently amended) A digital recording disk-feeder-apparatus for recording and authenticating digital video signals, the digital recording apparatus comprising:

a controller including a coding generating and mixing means for generating code signals commensurating with an exclusive code imprinted on a surface of a coded disk for mixing said code signals with said digital video signals, said exclusive code being different than a pre-imprinted code of the fresh disk;

a fresh disk compartment for loading one or more said coded disks;

a disk recorder means comprising a disk driver, a recording head and a sliding table for collecting and transporting said coded disk to said disk driver and to said recording head for recording said digital video signals mixed with said code signals onto said coded disk;

an imprinting means comprising a pull slider, a code reader supported by a reciprocal up-down arm for reading said exclusive code from the surface of said fresh disk and for propelling said coded disk away from said pull slider into said sliding table;

said pull slider pulling and transporting said coded disk from said fresh disk compartment into said imprinting means; and

a collection compartment for collecting the recorded disks; wherein

said sliding table transports back said recorded disk for ejection and said propelled coded disk ejects said recorded disk away from said sliding table into said collection compartment.

13. (currently amended) The digital recording disk-feeder-apparatus according to claim 10, adapted for authenticating the readback of video digital signals read from said recorded disk, wherein

said disk recorder further includes a readout head for reading recorded signals from said recorded disk; and

said controller further includes an extracting means for extracting said code signals from said readout head and said exclusive code from said code reader and a comparing means for comparing said extracted code signals and said exclusive code for outputting an authentication signal when said code signals and said exclusive code commensurate.

14. (currently amended) The digital recording disk feeder-apparatus according to claim 10, wherein said fresh disk is one of a non-erasable disk and a re-recordable disk.

15. (currently amended) The digital recording disk feeder-apparatus according to claim 12, wherein said coded disk is one of a non-erasable disk and a re-recordable disk.

16. (currently amended) The digital recording disk feeder-apparatus according to claim 10, wherein said code imprinter is selected from the group consisting of a laser printer, an ink jet printer, a heat stamp printer, an ink pad printer, an optical/chemical printer, a ribbon printer and a rubber pad printer.

17. (currently amended) The digital recording disk feeder-apparatus according to claim 10, wherein said code imprinter further comprises a label applicator for attaching an exclusively coded labels onto said surface of said fresh disk.

18. (currently amended) The disk feeder apparatus according to claim 12, wherein said exclusive code is imprinted onto a label attached to said surface.

19. (currently amended) The disk feeder apparatus according to claim 10, wherein the imprint side of said fresh disk is provided with one of a soft layer and a rim.

20. (currently amended) The disk feeder apparatus according to claim 12, wherein the coded side of said coded disk is provided with one of a soft imprint layer and a rim.

21. (currently amended) The digital recording disk feeder-apparatus according to claim 18, wherein said label comprises one of soft portions and a rim.

22. (currently amended) The digital recording disk feeder-apparatus according to claim 10, wherein said sliding table and said pull slider are combined into one piece.

23. (currently amended) The digital recording disk feeder-apparatus according to claim 12 wherein said sliding table and said pull slider are combined into one piece.

24. (currently amended) A digital recording disk feeder-apparatus for recording and authenticating digital video signals, the digital recording apparatus comprising:

a controller including a coding generating and mixing means for generating an exclusive code for each fresh disk and code signals commensurating with said exclusive code for mixing said code signals with said digital video signals, said exclusive code being different than a pre-imprinted code of the fresh disk;

a pull lever;

a fresh disk tray for receiving said fresh disk and including one or more cutouts, and one of notches and projections for engagement by said pull lever;

a fresh disk tray compartment for loading one or more fresh disk trays and including an elevating platform for raising or lowering said fresh disk tray into a feeding position;

an imprinting means including a reciprocally movable arm moving in up-down directions, an imprinting head supported by said movable arm, for imprinting said exclusive code onto a surface of said fresh disk enclosed in said fresh disk tray in said feeding position;

a disk recorder means including a disk driver, a recording head, and a pulling table including said pull lever for engaging and transporting said fresh disk tray with an imprinted fresh disk from said feeding position to said disk driver and to said recording head for recording said digital video signals mixed with said code signals onto said imprinted fresh disk;

a disk collection compartment for collecting recorded disks contained in trays receiving said recorded disks and including a disk collection elevating platform which is

raised or lowered along with collected trays containing said recorded disks to a receiving position for receiving a subsequent tray containing recorded disks, wherein

said tray containing recorded disks is pushed onto said receiving position by said fresh disk tray, or by an additional pull lever included in said pulling table during a disk tray transporting operation.

25. (currently amended) The digital recording disk feeder apparatus according to claim 24, and adapted for authenticating a readback of video digital signals read from a corresponding recorded disk, wherein:

said imprinting head further includes a code reader for reading said exclusive code imprinted onto said surface of said recorded disk;

said disk recorder further includes a readout head for reading recorded signals from said recorded disk; and

said controller further includes an extracting means for extracting said code signals from said readout head and said exclusive code from said code reader, and a comparing means for comparing said extracted code signals and said exclusive code for outputting an authentication signal when said code signals and said exclusive code commensurate.

26. (currently amended) A digital recording disk feeder-apparatus for recording and authenticating digital video signals, the digital recording apparatus comprising:

a controller including a coding generating and mixing means for generating code signals commensurating with an exclusive code imprinted on the surface of a coded disk for mixing said code signals with said digital video signals, said exclusive code being different than a pre-imprinted code of the fresh disk;

a pull lever;

a fresh disk tray for receiving said coded disk and comprising one or more cutouts, and one of notches and projections for engagement by said pull lever;

a fresh disk tray compartment for loading one or more said fresh disk trays and including an elevating platform for raising or lowering said fresh disk tray into a feeding position;

a disk recorder means including a disk driver, a recording head, a code reader for reading said exclusive code from the surface of said coded disk and a pulling table

including said pull lever for engaging and transporting said fresh disk tray with a coded disk from said feeding position to said disk driver and to said recording head for recording said digital video signals mixed with said code signals onto said coded disk;

a disk collection compartment for collecting recorded disks contained in trays receiving said recorder disks and including a disk collection elevating platform which is raised or lowered along with collected trays containing said recorded disks to a receiving position for receiving a subsequent tray containing recorded disks, wherein

said disk trays containing recorded disks are pushed onto said receiving position by said fresh disk trays, or by an additional pull lever included in said pulling table during a disk-tray transportating operation.

27. (currently amended) The digital recording disk feeder apparatus according to claim 26, adapted for authenticating the readback of video digital signals read from a corresponding recorded disk, wherein

said disk recorder further includes a readout head for reading recorded signals from said recorded disk; and

said controller further includes an extracting means for extracting said code signals from said readout head and said exclusive code from said code reader and a comparing means for comparing said extracted code signals and said exclusive code for outputting an authentication signal when said code signals and said exclusive code commensurate.

28. (currently amended) The digital recording disk feeder-apparatus according to claim 24, wherein said fresh disk is one of a non-erasable and a re-recordable.

29. (currently amended) The digital recording disk feeder-apparatus according to claim 26, wherein said coded disk is one of a non-erasable and a re-recordable.

30. (currently amended) The digital recording disk feeder-apparatus according to claim 24, wherein said code imprinter is selected from the group consisting of a laser printer, an ink jet printer, a heat stamp printer, an ink pad printer, an optical/chemical printer, a ribbon printer and rubber pad printer.

31. (currently amended) The digital recording disk feeder-apparatus to claim 24, wherein said code imprinter further comprises a label applicator for attaching exclusively coded labels onto a label, the label being disposed on a label surface opposite to a digital video signal data recording surface of the fresh disk said surface of said fresh disk.

32. (currently amended) The digital recording disk feeder-apparatus according to claim 26, wherein said exclusive code is imprinted onto a label, the label being disposed on a label surface opposite to a digital video signal data recording surface of the fresh disk, attached to said surface.

33. (currently amended) The digital recording disk feeder-apparatus according to claim 24, wherein said pull lever is selected from the group consisting of a self-propelled lever, a spring propelled lever, a motor-activated lever and an electrical plunger-activated lever.

34. (currently amended) The digital recording disk feeder-apparatus according to claim 26, wherein said pull lever is selected from the group consisting of a self-propelled lever, a spring propelled lever, a motor-activated lever and an electrical plunger-activated lever.

35. (currently amended) The digital recording disk feeder-apparatus according to claim 24, wherein said elevating platform includes an elevating mechanism selected from the group consisting of gear assemblies with gear racks, timing belts with timing gears and threaded shafts with mating threaded sockets.

36. (currently amended) The digital recording disk feeder-apparatus according to claim 26, wherein said elevating platform includes an elevating mechanism selected from the group consisting of gear assemblies with gear racks, timing belts with timing gears and threaded shafts with mating threaded sockets.

37. (currently amended) The digital recording disk feeder-apparatus according to claim 24, wherein said disk recorder means the digital recording includes at least two

disk recorders, vertically stacked and mounted on top of said elevating platform, each of said disk recorders including a disk driver and a recording head, and wherein

    said elevating platform raises or lowers said disk recorders for aligning each of said disk recorders with said feeding position and said receiving position during said disk tray transporting operation.

38. (currently amended) The digital recording disk feeder apparatus according to claim 25, wherein ~~said disk recorder means~~ the digital recording apparatus includes at least two disk recorders, vertically stacked and mounted on top of an elevating platform, each of said disk recorders including a disk driver and a recording head, and wherein

    said elevating platform raises or lowers said disk recorders for aligning each of said disk recorders with said feeding position and said receiving position during said disk tray transporting operation.

39. (currently amended) The digital recording disk feeder apparatus according to claim 26, wherein ~~said disk recorder means~~ the digital recording apparatus includes at least two disk recorders, vertically stacked and mounted on top of an elevating platform, each of said disk recorders including a disk driver and a recording head, and wherein

    said elevating platform raises or lowers said disk recorders for aligning each of said disk recorders with said feeding position and said receiving position during said disk tray transporting operation.

40. (currently amended) The digital recording disk feeder apparatus according to claim 27, wherein ~~said disk recorder means~~ the digital recording apparatus includes at least two disk recorders, vertically stacked and mounted on top of an elevating platform, each of said disk recorders comprises a disk driver and a recording head, and wherein

    said elevating platform raises or lowers said disk recorders for aligning each of said disk recorders with said feeding position and said receiving position during said disk tray transporting.

41. (currently amended) A digital recording disk feeder-apparatus for automatic feeding of disk for recording of digital video signals recording and readback of digital video signals, comprising:

a pull lever;

a fresh disk tray for receiving and enclosing a fresh disk or a recorded disk and including one or more cutouts, and one of notches and projections for engagement by a said pull lever;

a fresh disk tray compartment for loading one or more said fresh disk trays and including an elevating platform for raising or lowering a fresh disk tray into a feeding position;

a disk recorder means including a disk driver, a recording and readback head, a controller, and a pulling table including said pull lever for engaging and transporting said fresh disk tray from said feeding position to said disk driver and to said recording and readback head for recording said digital signals onto said fresh disk, or for reading back said digital signals from said recorded disk;

a disk collection compartment for collecting recorded disks enclosed in trays containing said recorded disks and including a disk collection elevating platform which is raised and lowered along with collected trays containing recorded disks to a receiving position for receiving a subsequent tray containing recorded disks, wherein

said tray containing recorded disks is pushed onto said receiving position by said fresh disk tray, or by an additional pull lever included in said pulling table during a disk-tray transporting operation.

42. (currently amended) The digital recording disk feeder-apparatus according to claim 41, wherein said fresh disk is one of a non-erasable and a re-recordable; said trays for enclosing blank disks used for enclosing said recorded disk.

43. (currently amended) The digital recording disk feeder-apparatus according to claim 41, wherein said pull lever is selected from the group consisting of a self-propelled lever, a spring-propelled lever, a motor-activated lever and an electrical plunger-activated lever.

44. (currently amended) The digital recording disk feeder apparatus according to claim 41, wherein said elevating platform includes an elevating mechanism selected from the group consisting of gear assemblies with gear racks, timing belts with timing gears and threaded shafts with mating threaded sockets.

45. (currently amended) The digital recording disk feeder apparatus according to claim 41, wherein said digital recording apparatus disk recorder means includes at least two disk recorders, vertically stacked and mounted on top of an elevating platform, each of said disk recorders comprises a disk driver, a recording head and readback head, and wherein

said elevating platform raises or lowers said disk recorders for aligning each of said disk recorders with said feeding position and said receiving position during said disk-tray transportating operation.